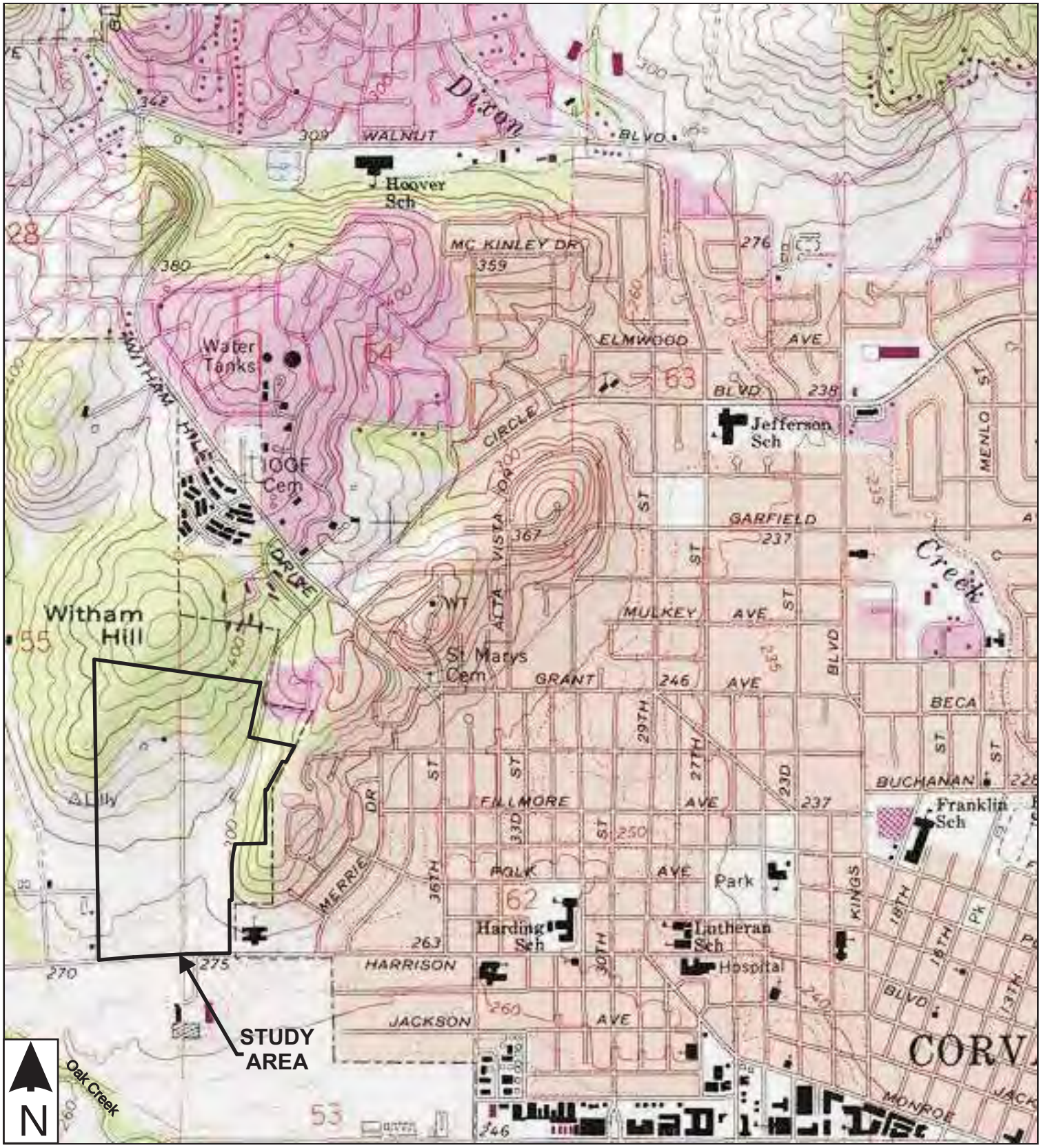


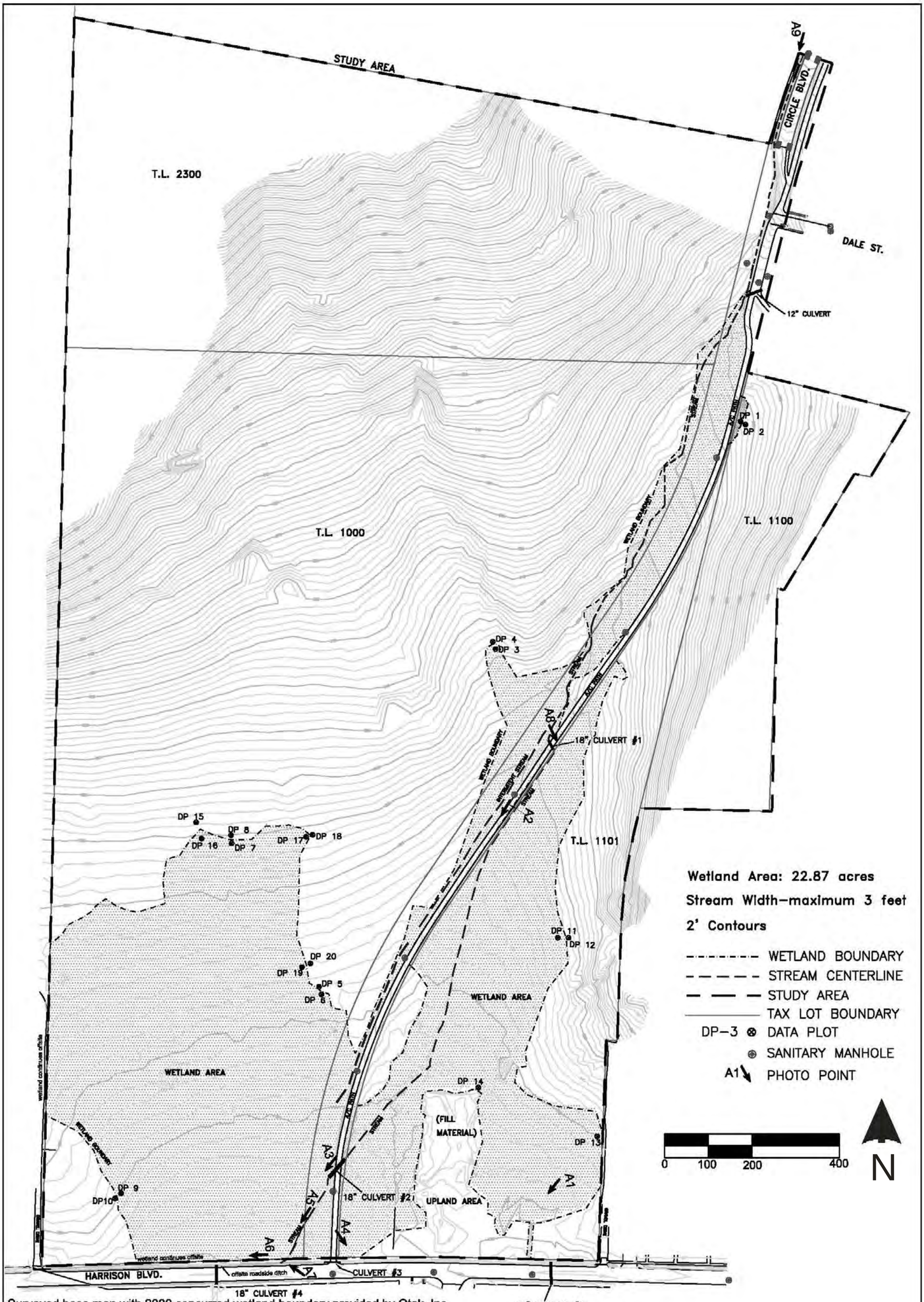
Source: USGS 7.5-Minute Corvallis, OR Quadrangle, 1986. Printed from TOPO! 2000 National Geographic Holdings

Environmental Science & Assessment, LLC	Vicinity Map CORE - Corvallis Corvallis, Oregon	Figure 1 Approx. Scale: 1in. = 2400 ft.

Source: earth.google.com

Imagery Date 3/9/2010

Environmental Science & Assessment, LLC	Aerial Photograph CORE - Corvallis Corvallis, Oregon	Figure 3 Not to Scale



Surveyed base map with 2006 concurred wetland boundary provided by Otak, Inc.
The data plot locations and changes to wetland boundary were surveyed using resource grade GPS, accuracy + 3 feet.

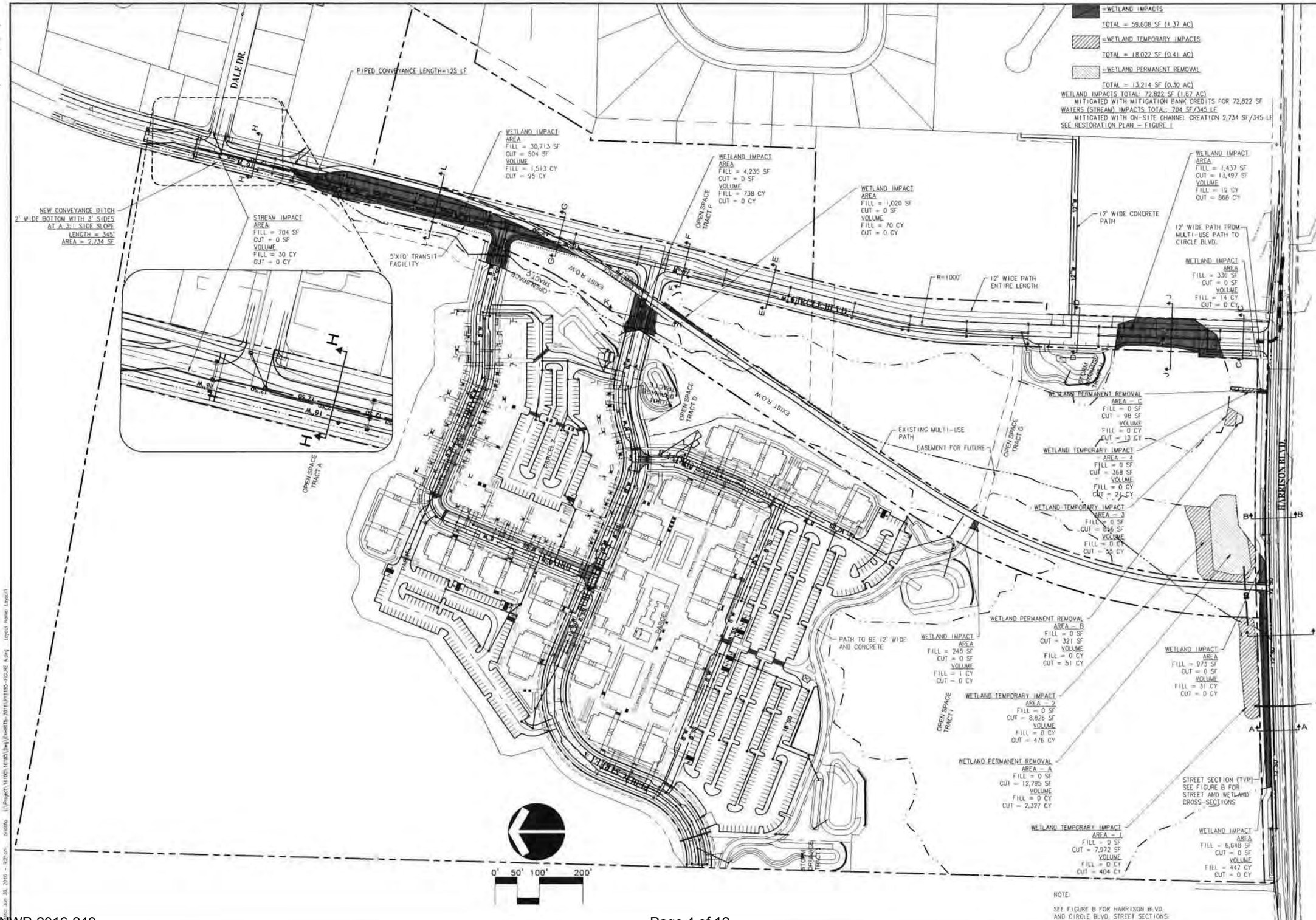
Fig. 4

Source Mapping By: Otak, LLC
Modified By: KR
Date: 8/12
Job: 2494

Wetland Map
Core Corvallis
Corvallis, Oregon

Environmental Science & Assessment, LLC

838 SW First Ave. #410
Portland, OR 97204
Phone: 503.478.0424
FAX: 503.478.0422
www.esapdx.com



NO.	DATE	BY	REVISION COMMENTS

Design	Drawn	Checked	Date	Initial Issue Date
MRK	MRK	TDK		

CORE DEVELOPMENT IN CORVALLIS

OVERALL

PRELIMINARY SITE PLAN

otak

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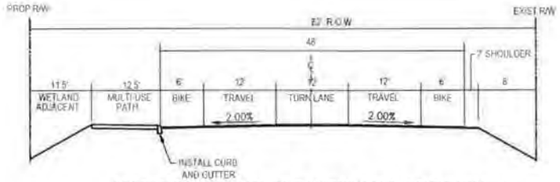
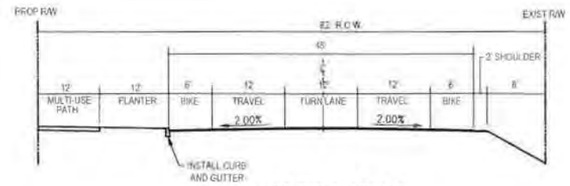
Fig.5

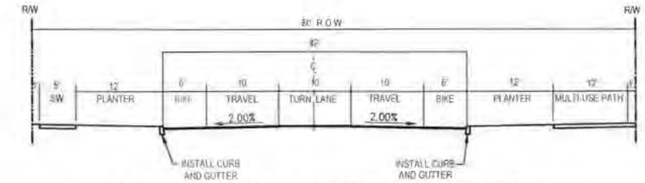
XREF LIST
Lisc.cole: 50
Resolved
P185X001



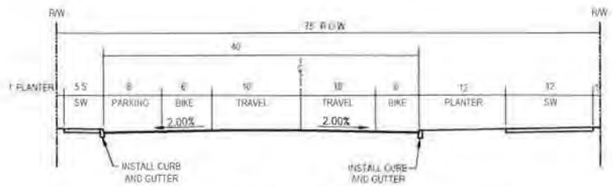
HARRISON BLVD. (AT WETLAND CROSSING)
SECTION A-A
NTS



HARRISON BLVD.
SECTION B-B
NTS



CIRCLE BLVD. (COLLECTOR) (LOOKING NORTH)
SECTION C-C
NTS



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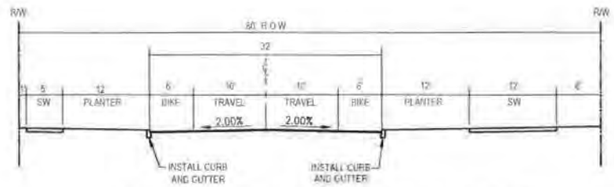
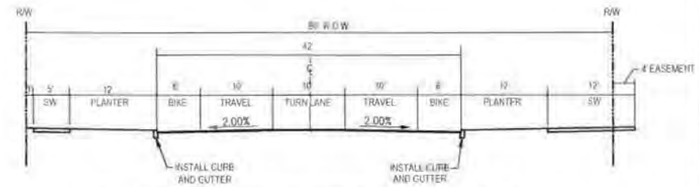
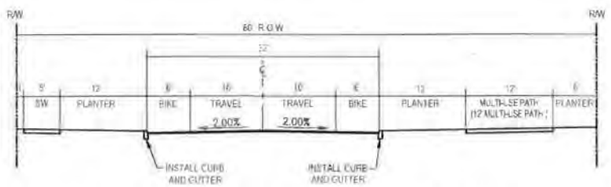
SECTION D-D
NTS



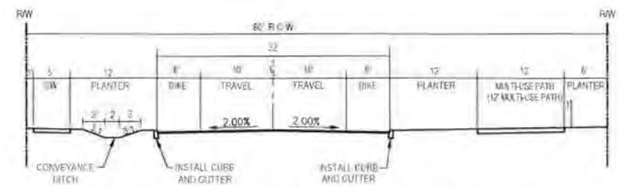
CIRCLE BLVD. (COLLECTOR) (LOOKING NORTH)
SECTION E-E
NTS



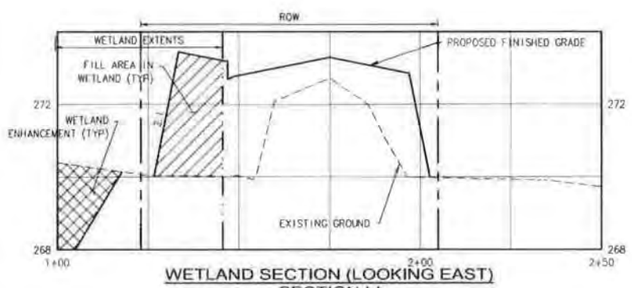
CIRCLE BLVD. (COLLECTOR) (LOOKING NORTH)
SECTION F-F
NTS



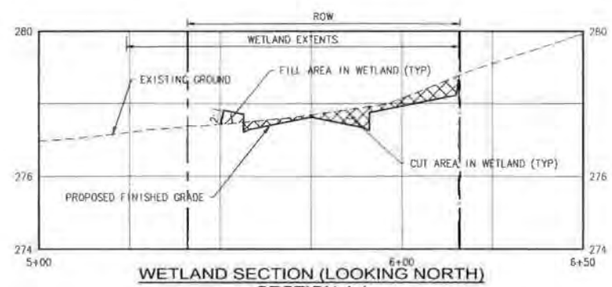
CIRCLE BLVD. (COLLECTOR) (LOOKING NORTH)
SECTION G-G
NTS



CIRCLE BLVD. (COLLECTOR) (LOOKING NORTH)
SECTION H-H
NTS



WETLAND SECTION (LOOKING EAST)
SECTION I-I
SCALE HORIZONTAL 1"=20' VERTICAL 1"=2'



WETLAND SECTION (LOOKING NORTH)
SECTION J-J
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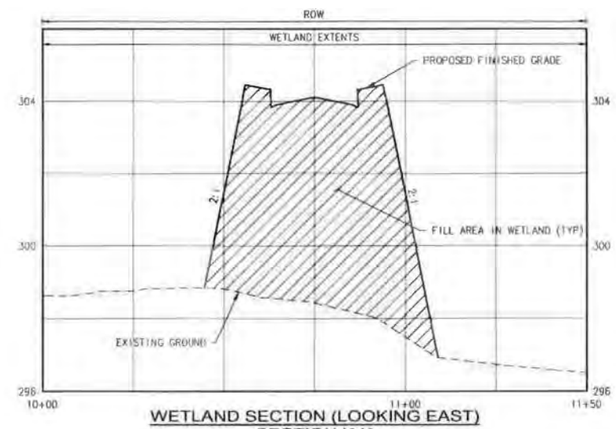
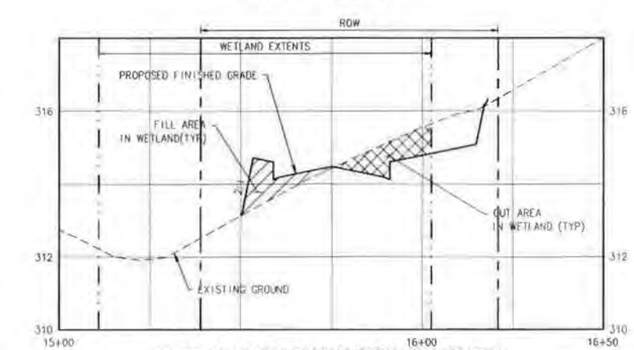


WETLAND SECTION (LOOKING EAST)
SECTION K-K
SCALE HORIZONTAL 1"=20' VERTICAL 1"=2'



WETLAND SECTION (LOOKING NORTH)
SECTION L-L
SCALE HORIZONTAL 1"=20' VERTICAL 1"=2'

NO.	DATE	BY	REVISION COMMENTS

Design	Drawn	Reviewed	Date	Initial Issue Date
VRK	MRK	TDK		

CORE DEVELOPMENT IN CORVALLIS

PRELIMINARY STREET AND WETLAND CROSS-SECTIONS

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Fig.6

XREF LIST
Liscale: 100

Resolved
P185X001
P185X190
P185X191
P185X230
P185X400
P185X430
P185X600
P185X950

LEGEND

SITE	EXISTING	PROPOSED
RIGHT OF WAY		
LOT LINE		
EASEMENT LINE		
STANDARD CURB		
SIDEWALK		
CONCRETE RETAINING WALL		
2' CONTOUR		
10' CONTOUR	210	210
WETLAND BOUNDARY		
STREAM		
SILT FENCE		X

SITE	EXISTING	PROPOSED
STORM DRAIN MANHOLE		
FLOW CONTROL MANHOLE		
STORM DRAIN CATCH BASIN		
SANITARY SEWER MANHOLE		
WATER VALVE		
DOUBLE CHECK DETECTOR ASSEMBLY		
WATER METER		
WATER FIRE HYDRANT		
TREES		
CONSTRUCTION ENTRANCE		
SOIL STOCKPILE		

NOTES:

1. CONTOURS ARE SHOWN FOR ROUGH FINISH GRADE DESIGN ONLY. DETAILED CONTOURS AND SPOT GRADES WILL BE PROVIDED WITH PERMIT SUBMITTAL TO ENSURE COMPLIANCE WITH ADA GUIDELINES AND DRAINAGE REQUIREMENTS.

2. EXISTING TREES ARE TO BE REMOVED WITHIN THE DEVELOPMENT AREA, UNLESS OTHERWISE NOTED.

3. ALL SLOPE 2:1 OR GREATER TO BE MATTED OR COVERED BY PLASTIC SHEETING.

NO.	DATE	BY	REVISION COMMENTS

Design	Drawn	Checked	Date	Initial Issue Date:
VRK	MRK	TDK		

CORE DEVELOPMENT IN CORVALLIS

PRELIMINARY GRADING AND EROSION CONTROL PLAN

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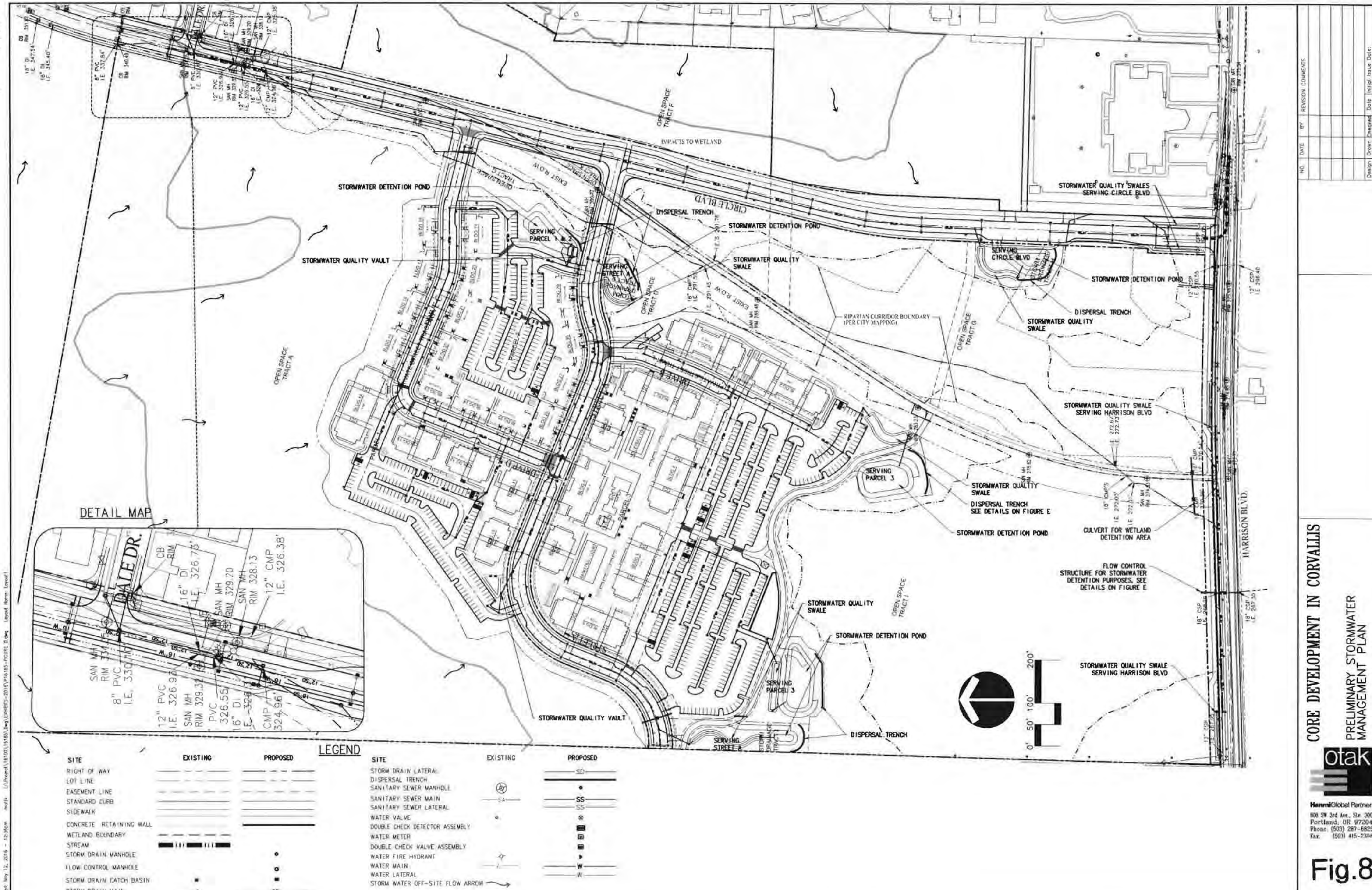
Fig.7



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Resolved
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P185X230
P185X190
P185X191
P185X600
STORMWATER DETENTION POND
STORMWATER QUALITY VAULT
OPEN SPACE TRACT A
OPEN SPACE TRACT F
IMPACTS TO WETLAND
CIRCLE BLVD
DISPERSAL TRENCH
SERVING PARCEL 1 & 2
SERVING STREET
STORMWATER QUALITY SWALE
OPEN SPACE TRACT D
RIPARIAN CORRIDOR BOUNDARY (PER CITY MAPPING)
OPEN SPACE TRACT G
STORMWATER QUALITY SWALES SERVING CIRCLE BLVD
SERVING CIRCLE BLVD
STORMWATER QUALITY SWALE SERVING HARRISON BLVD
SERVING PARCEL 3
DISPERSAL TRENCH SEE DETAILS ON FIGURE E
CULVERT FOR WETLAND DETENTION AREA
FLOW CONTROL STRUCTURE FOR STORMWATER DETENTION PURPOSES, SEE DETAILS ON FIGURE E
OPEN SPACE TRACT I
SERVING STREET A
STORM DRAINAGE TRACT
HARRISON BLVD.
DETAIL MAP
DALE DR.
CB RIM
16" DI I.E. 326.73'
SAN MH RIM 329.20
SAN MH RIM 328.13
12" CMP I.E. 326.38'
SAN MH RIM 334
8" PVC I.E. 330.10
12" PVC I.E. 326.93
SAN MH RIM 329.32
PVC 326.55
16" DI
CMP 324.96
0' 50' 100' 200'
LEGEND
SITE | EXISTING | PROPOSED
RIGHT OF WAY
LOT LINE
EASEMENT LINE
STANDARD CURB
SIDEWALK
CONCRETE RETAINING WALL
WETLAND BOUNDARY
STREAM
STORM DRAIN MANHOLE
FLOW CONTROL MANHOLE
STORM DRAIN CATCH BASIN
STORM DRAIN MAIN
STORM DRAIN LATERAL
DISPERSAL TRENCH
SANITARY SEWER MANHOLE
SANITARY SEWER MAIN
SANITARY SEWER LATERAL
WATER VALVE
DOUBLE CHECK DETECTOR ASSEMBLY
WATER METER
DOUBLE CHECK VALVE ASSEMBLY
WATER FIRE HYDRANT
WATER MAIN
WATER LATERAL
STORM WATER OFF-SITE FLOW ARROW
NO. | DATE | BY | REVISION COMMENTS
Design MRK | Drawn MRK | Checked TDK | Date | Initial Issue Date:
CORE DEVELOPMENT IN CORVALLIS
PRELIMINARY STORMWATER MANAGEMENT PLAN
otak
HenmiGlobal Partner
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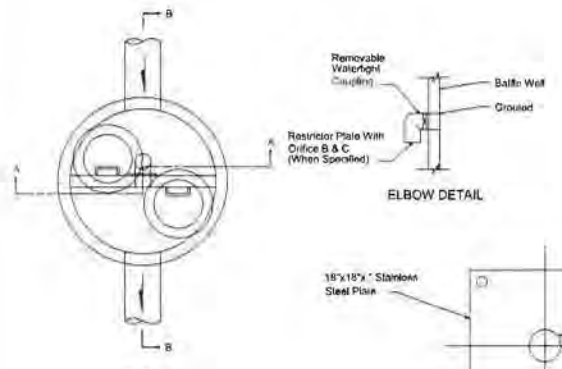
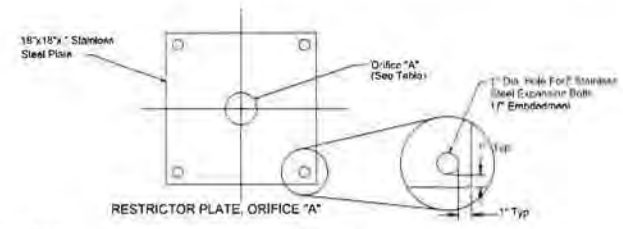
Fig.8

FLOW CONTROL STRUCTURE DETAIL

NOTES:

1. BAFFLE WALL SHALL HAVE #4 BAR AT 12" SPACING EACH WAY.
2. PRECAST BAFFLE SHALL BE KEYED AND GROUTED IN PLACE JOINT BETWEEN CONCRETE BAFFLE AND MANHOLE WALL SHALL BE WATERTIGHT.
3. UPPER FLOW ORIFICE SHALL BE ALUMINUM, ALUMINIZED STEEL OR GALVANIZED STEEL. GALVANIZED STEEL SHALL HAVE TREATMENT 1.
4. FRAME AND LADDER OR STEPS ARE TO BE OFFSET SO THAT SHEAR GATE IS VISIBLE FROM THE TOP; CLIMB-DOWN SPACE IS CLEAR OF RISER AND GATE; FRAME IS CLEAR OF CURB.
5. MULTI-ORIFICE ELBOWS SHALL BE PRE-INSTALLED TO INSURE LADDER CLEARANCE.
6. RESTRICTOR PLATE WITH ORIFICE AS SPECIFIED IN THE CONTRACT. OPENING IS TO BE CUT ROUND AND SMOOTH. NEOPRENE GASKET SHALL BE INSTALLED BETWEEN THE ORIFICE PLATE AND CONCRETE BAFFLE TO PROVIDE A WATERTIGHT SEAL.
7. SHEAR GATE SHALL BE MADE OF ALUMINUM ALLOY IN ACCORDANCE WITH ASTM B 26M AND ASTM B 275, DESIGNATION Zg32A OR CAST IRON IN ACCORDANCE WITH ASTM A 48, CLASS 30B. LIFT HANDLE MAY BE SOLID ROD OR HOLLOW TUBING WITH ADJUSTABLE HOOK AS REQUIRED. NEOPRENE RUBBER GASKET REQUIRED BETWEEN RISER MOUNTING FLANGE AND GATE FLANGE. MATING SURFACES OF LID AND BODY SHALL BE MACHINED FOR PROPER FIT. FLANGE MOUNTING BOLTS SHALL BE ___" DIAMETER STAINLESS STEEL.
8. SHEAR GATE MAXIMUM OPENING SHALL BE CONTROLLED BY LIMITED HINGE MOVEMENT, STOP TAB OR SOME OTHER DEVISE.
9. ALTERNATE SHEAR GATES DESIGNS ARE ACCEPTABLE, IF MATERIAL SPECIFICATIONS ARE MET AND FLANGE BOLT PATTERN MATCHES.
10. MANHOLE CERTIFICATION REQUIRED FOR TRAFFIC LOADING.

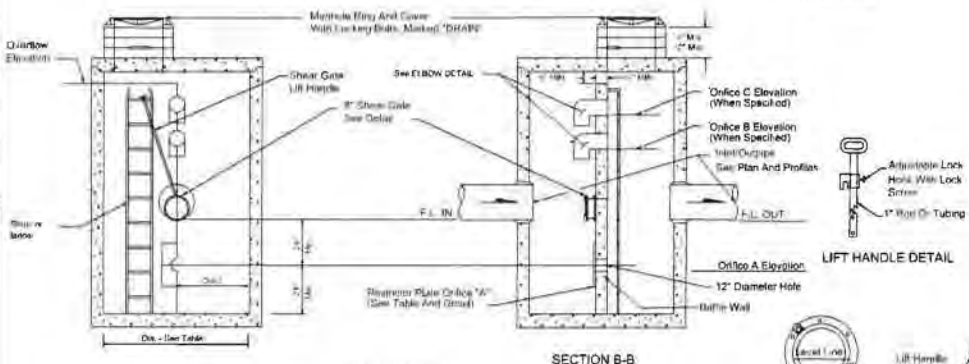




RESTRICTOR PLATE, ORIFICE "A"

FLOW CONTROL STRUCTURE TABLE

Diameter Of Manhole (In.)	
F.L. (In)	
F.L. (Out)	
Outlet Pipe Diameter (In.)	
Number Of Orifice	
Orifice A Elevation	
Diameter Of Orifice A (In.)	
Orifice B Elevation	
Diameter Of Orifice B (In.)	
Orifice C Elevation	
Diameter Of Orifice C (In)	
Overflow Elevation	
Rim Elevation	
Riser Diameter (In.)	



FLOW CONTROL STRUCTURE DETAIL
NTS

SHEAR GATE
AS MANUFACTURED BY KENNEDY VALVE OR EQUAL

DRAINAGE DETAILS

2B-2

Level Spreader

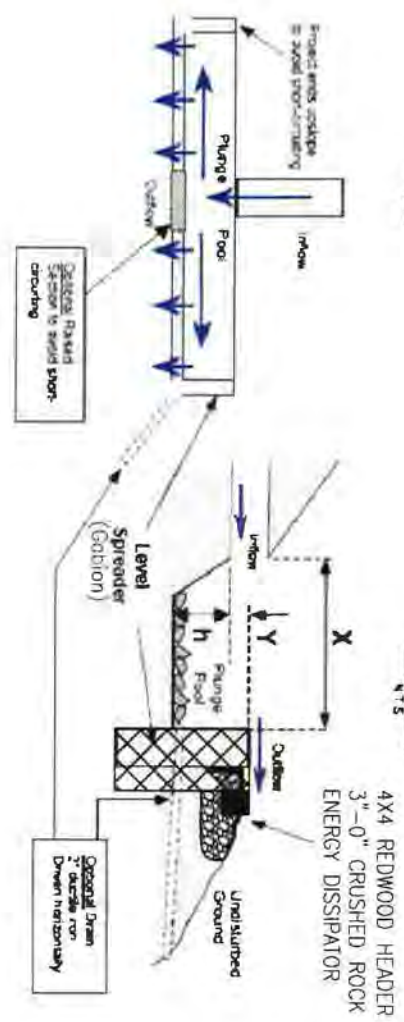


Figure 3. Typical Orientation of Level Spreader with Surface Discharge

CORE DEVELOPMENT IN CORVALLIS

PRELIMINARY STORMWATER MANAGEMENT DETAILS

otak

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Fig.9

NO.	DATE	BY	REVISION COMMENTS

Design	Drawn	Checked	Date	Initial Issue Date:
MRK	MRK	TDK		

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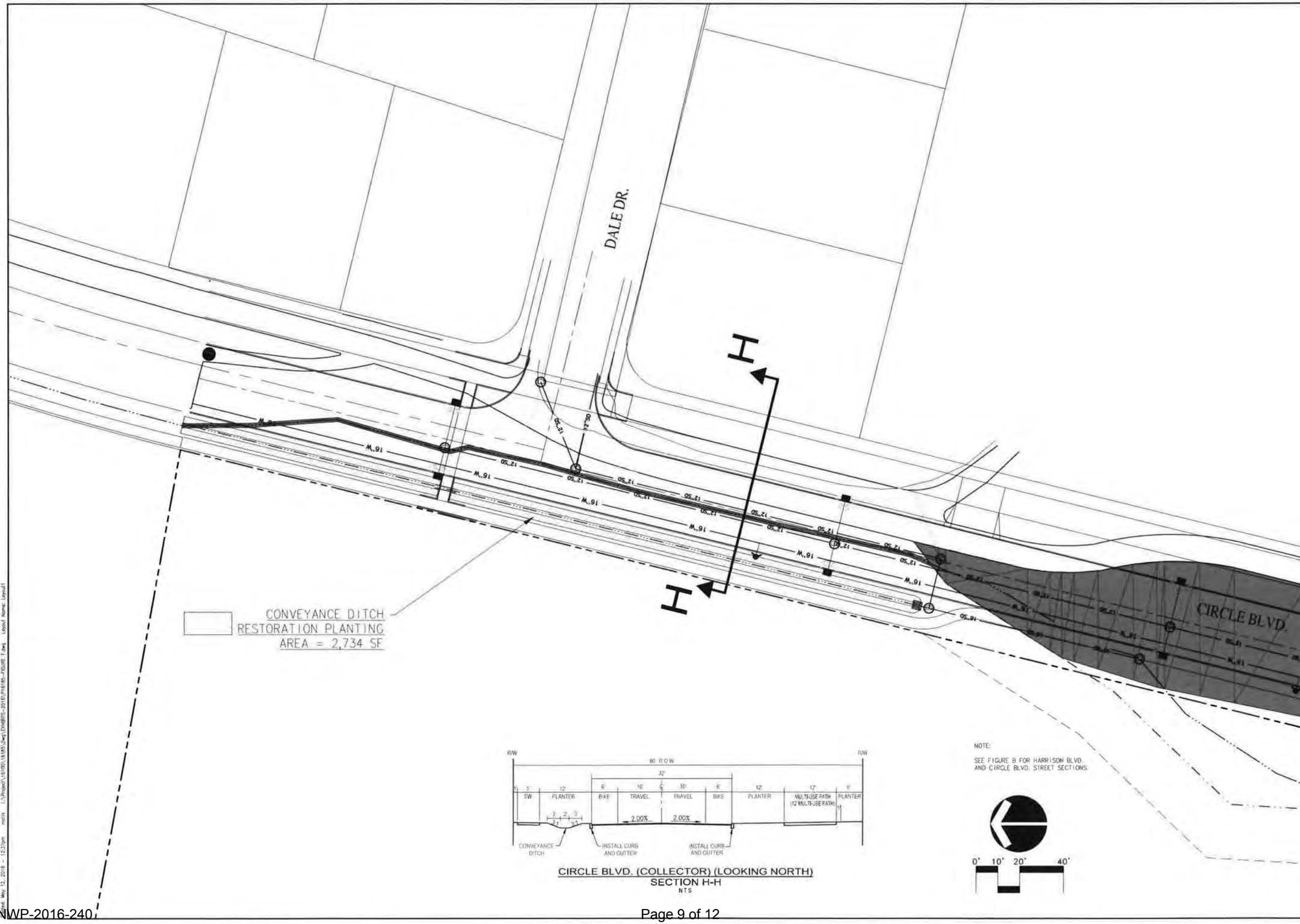
P185X190
P185X191
P185X230



NO.	DATE	BY	REVISION COMMENTS

Design	Drawn	Checked	Date
MRK	MRK	TDK	Initial Issue Date

CORE DEVELOPMENT IN CORVALLIS
OVERALL
PRELIMINARY CONVEYANCE DITCH

otak
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Fig.10

XREF LIST
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P185X190
P185X191
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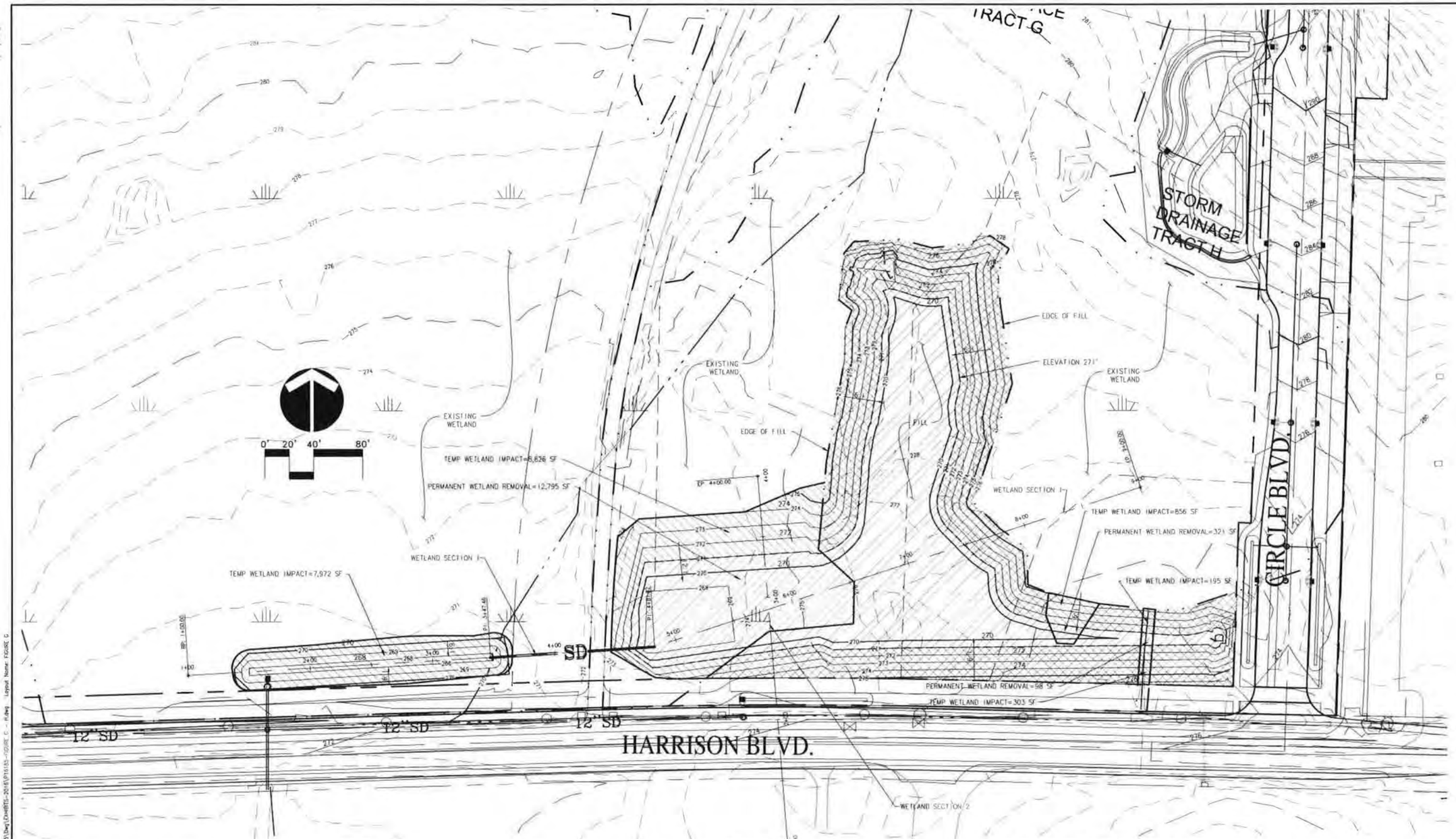
P185X430
P185X600
P185X950



LEGEND

SITE	EXISTING	PROPOSED
RIGHT OF WAY		
LOT LINE		
EASEMENT LINE		
STANDARD CURB		
SIDEWALK		
CONCRETE RETAINING WALL		
2' CONTOUR		
10' CONTOUR	210	210
WETLAND BOUNDARY		
STREAM		
SILT FENCE	X	X

SITE	EXISTING	PROPOSED
STORM DRAIN MANHOLE		
FLOW CONTROL MANHOLE		
STORM DRAIN CATCH BASIN		
SANITARY SEWER MANHOLE		
WATER VALVE		
DOUBLE CHECK DETECTOR ASSEMBLY		
WATER METER		
WATER FIRE HYDRANT		
TREES		
CONSTRUCTION ENTRANCE		
SOIL STOCKPILE		

NOTES:

1. DETENTION DESIGNED FOR A 25-YEAR EVENT AND DRAINAGE WITHIN A 48-HR PERIOD.
2. WETLAND ABOVE 271' ELEV. AND SEMI-PERMANENT INUNDATION BELOW 271' ELEV.

WETLAND RESTORATION AND STORM DETENTION LEGEND

- WETLAND RESTORATION 35,395 SF
- WATERS RESTORATION 27,379 SF
- WETLAND PERMANENT REMOVAL 13,214 SF
- TEMPORARY WETLAND IMPACT (RESTORED IN PLACE) 18,152 SF

NOTE: WETLAND RESTORATION IS 22,181 SF MORE THAN WETLAND REMOVAL

NO	DATE	BY	REVISION COMMENTS

Design	Drawn	Checked	Date	Issue Date
MRK	MRK	TDK		

CORE DEVELOPMENT IN CORVALLIS

PRELIMINARY WETLAND RESTORATION/STORM DETENTION PLAN

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Fig.11

XREF LIST
Ltscale: 100
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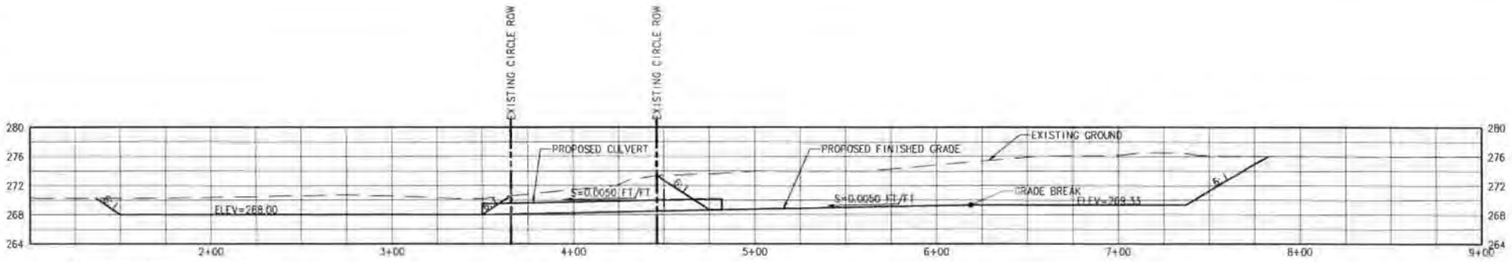
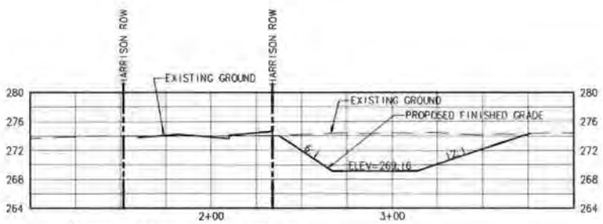


WETLAND SECTION 1

VERT. SCALE = 4'



WETLAND SECTION 2

VERT. SCALE = 4'

NO.	DATE	BY	REVISION COMMENTS

Design	Drawn	Checked	Date	Initial Issue Date:
MRK	MRK	TDK		

CORE DEVELOPMENT IN CORVALLIS

STORMWATER DETENTION/WETLAND RESTORATION PROFILES

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Fig.12

XREF LIST
Ltscale: 100
Resolved
P185X001
P185X190
P185X191
P185X230
P185X400
P185X430
P185X600
P185X950

AREA 1: WETLAND RESTORATION AREA PLANT LIST

Common Name	Scientific Name	Plant Form/Size[1]	Minimum Spacing	Total # plants
Trees				150
Red alder	*Alnus rubra*	1 gal/24"	12 ft O.C.	50
Oregon ash	*Fraxinus latifolia*	1 gal/24"	12 ft O.C.	50
Pacific willow	*Salix lasiandra*	1 gal/24"	12 ft O.C.	50
Shrubs				452
Clustered wild rose	*Rosa pisocarpa*	1 gal/18"	Clustered 6 ft O.C.	113
Pacific ninebark	*Physocarpus capitatus*	1 gal/24"	Clustered 6 ft O.C.	113
Red osier dogwood	*Cornus sericea*	1 gal/24"	Clustered 6 ft O.C.	113
Sitka willow	*Salix sitchensis*	1 gal/24"	Clustered 6 ft O.C.	113
			TOTAL	602

[1] SUBSTITUTES FOR PLANT FORM AND SPECIES MAY BE USED BASED ON AVAILABILITY.

AREA 2: SEASONAL INUNDATION DETENTION AREA PLANT LIST

Common Name	Scientific Name	Plant Form/Size[1]	Minimum Spacing	Total # plants
Shrubs				355
Douglas spirea	*Spirea douglasii*	1 gal/18"	Clustered 6 ft O.C.	89
Scouler's willow	*Salix scouleriana*	1 gal/24"	Clustered 6 ft O.C.	89
Red osier dogwood	*Cornus sericea*	1 gal/24"	Clustered 6 ft O.C.	89
Sitka willow	*Salix sitchensis*	1 gal/24"	Clustered 6 ft O.C.	88
Plugs				730
pointed broom sedge	*Carex scoparia*	plugs	Clumps 3 ft O.C.	210
big leaf sedge	*Carex amplifolia*	plugs	Clumps 3 ft O.C.	250
tufted hairgrass	*Deschampsia caespitosa*	plugs	Clumps 3 ft O.C.	250
			TOTAL	1,085

[1] SUBSTITUTES FOR PLANT FORM AND SPECIES MAY BE USED BASED ON AVAILABILITY.

AREA 3: TEMPORARY WETLAND IMPACT RESTORATION – DETENTION AREA PLANT LIST

Common Name	Scientific Name	Plant Form/Size[1]	Minimum Spacing	Total # plants
Shrubs				170
Scouler's willow	*Salix scouleriana*	1 gal/18"	Clustered 6 ft O.C.	60
Pacific ninebark	*Physocarpus capitatus*	1 gal/24"	Clustered 6 ft O.C.	60
Red osier dogwood	*Cornus sericea*	1 gal/24"	Clustered 6 ft O.C.	50
			TOTAL	170

[1] SUBSTITUTES FOR PLANT FORM AND SPECIES MAY BE USED BASED ON AVAILABILITY.

STORMWATER DETENTION – WETLAND RESTORATION AREA SEED MIX

Common Name	Scientific Name	Percentage of Seed Mix*
	Native Wildflower/Grass Mix	
Slender rush	Juncus tenuis	20
one-sided sedge	Carex unilateralis	20
tufted hairgrass	Deschampsia densiflorum	30
dense flower willowherb	Epilobium densiflorum	5
large bird's-foot-trefoil	Lotus uliginosus	5
marsh meadow foxtail	Alopecurus geniculatus	15
spike bentgrass	Agrostis exarata	5
	TOTAL	100

*SEEDING RATE OF PURE LIVE SEED (PLS) AT 40 POUNDS PER ACRE (1.0 POUND PER 1,000 SQ FT).

AREA 4: TEMPORARY WETLAND IMPACT RESTORATION – CONVEYANCE CHANNEL PLANT LIST

Common Name	Scientific Name	Plant Form/Size[1]	Minimum Spacing	Total # plants
Trees				55
Oregon ash	*Fraxinus latifolia*	1 gal/24"	12 ft O.C.	28
Pacific willow	*Salix lasiandra*	1 gal/24"	12 ft O.C.	27
Shrubs				166
Clustered wild rose	*Rosa pisocarpa*	1 gal/18"	Clustered 6 ft O.C.	42
Pacific ninebark	*Physocarpus capitatus*	1 gal/24"	Clustered 6 ft O.C.	41
Red osier dogwood	*Cornus sericea*	1 gal/24"	Clustered 6 ft O.C.	42
Sitka willow	*Salix sitchensis*	1 gal/24"	Clustered 6 ft O.C.	41
			TOTAL	221

[1] SUBSTITUTES FOR PLANT FORM AND SPECIES MAY BE USED BASED ON AVAILABILITY.

AREA 5: CONVEYANCE DITCH RESTORATION PLANT LIST

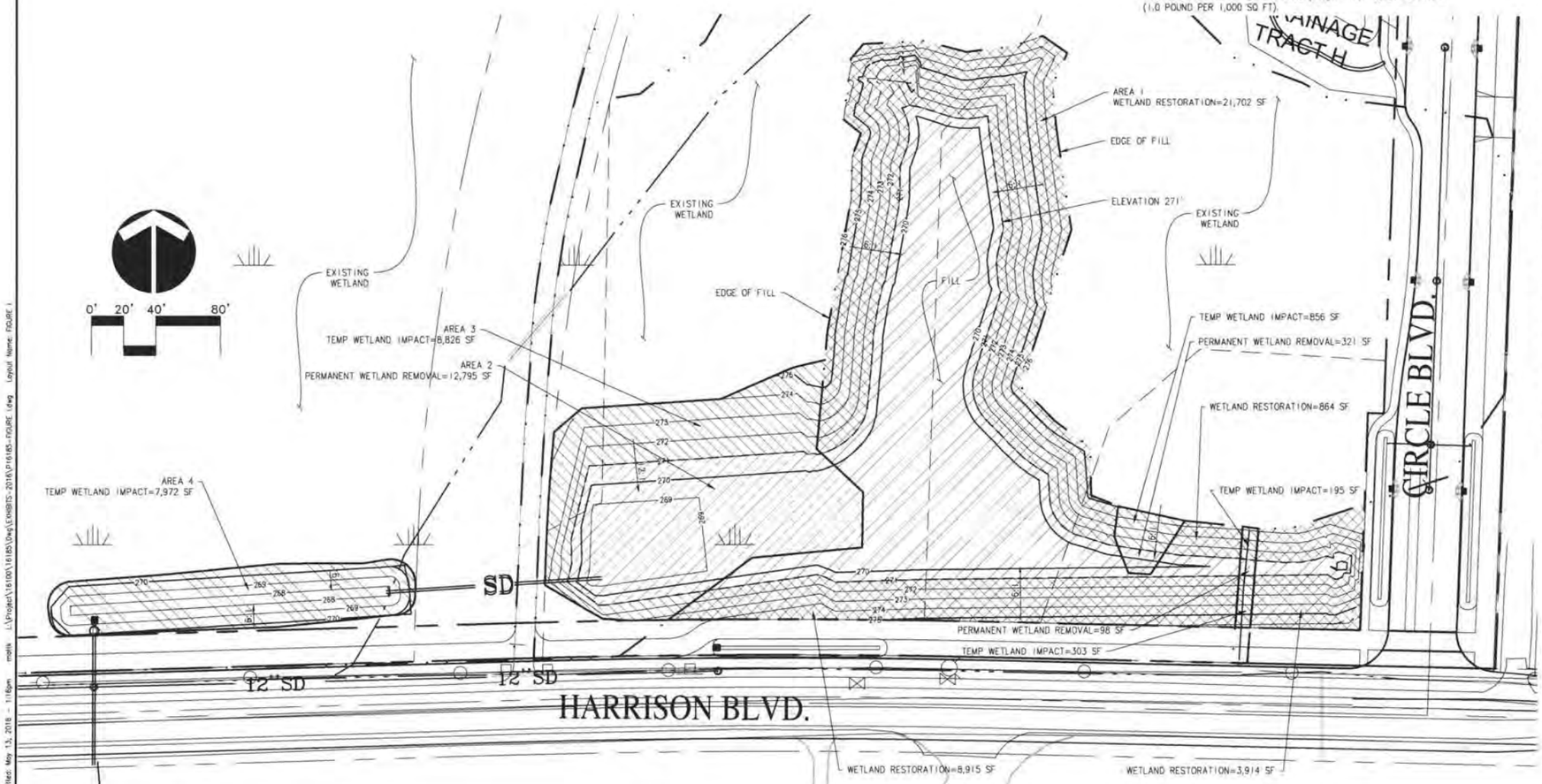
Common Name	Scientific Name	Plant Form/Size[1]	Minimum Spacing	Total # plants
Shrubs				170
Scouler's willow	*Salix scouleriana*	Live stakes 1-in caliper	Clustered 3 ft O.C.	60
Sitka willow	*Salix sitchensis*	Live stakes 1-in caliper	Clustered 3 ft O.C.	60
Red osier dogwood	*Cornus sericea*	Live stakes 1-in caliper	Clustered 3 ft O.C.	50
			TOTAL	170

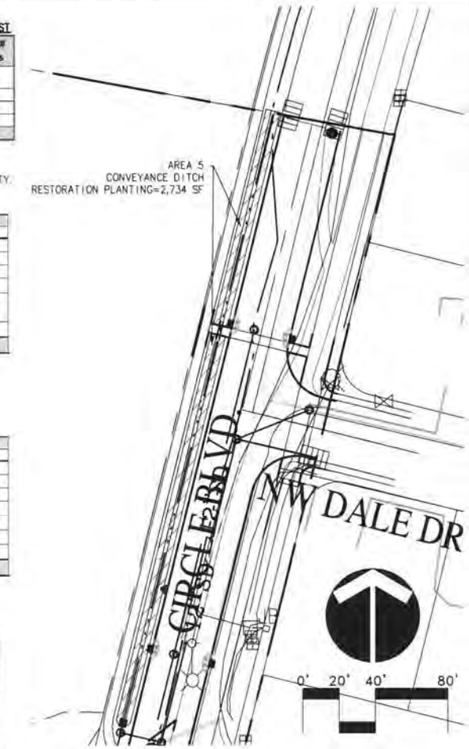
[1] SUBSTITUTES FOR PLANT FORM AND SPECIES MAY BE USED BASED ON AVAILABILITY.

STORMWATER DETENTION – SEASONALLY PONDED AREA SEED MIX

Common Name	Scientific Name	Percentage of Seed Mix*
	Native Wildflower/Grass Mix	
spike bentgrass	Agrostis exarata	2.5
American slough grass	Beckmannia syzigachne	5
pointed broom sedge	Carex scoparia	10
big-leaf sedge	Carex amplifolia	2.5
tufted hairgrass	Deschampsia caespitosa	30
meadow barley	Hordeum brachyantherum	30
northwestern mannagrass	Glyceria occidentalis	20
	TOTAL	100

*SEEDING RATE OF PURE LIVE SEED (PLS) AT 40 POUNDS PER ACRE (1.0 POUND PER 1,000 SQ FT).





LEGEND

SITE	EXISTING	PROPOSED
RIGHT OF WAY		
LOT LINE		
EASEMENT LINE		
STANDARD CURB		
SIDEWALK		
CONCRETE RETAINING WALL		
WETLAND BOUNDARY		
STREAM		
SILT FENCE		X
STORM DRAIN MANHOLE		
FLOW CONTROL MANHOLE		
STORM DRAIN CATCH BASIN		
SANITARY SEWER MANHOLE		
WATER VALVE		
DOUBLE CHECK DETECTOR ASSEMBLY		
WATER METER		
WATER FIRE HYDRANT		
TREES		

NO.	DATE	BY	REVISION COMMENTS	Date	Initial	Issue	Date

Design	MRK	Drawn	MRK
		Checked	TDK

CORE DEVELOPMENT IN CORVALLIS

PRELIMINARY WETLAND RESTORATION PLANTING PLAN

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16185 P16185-FIGURE 1

Fig.13

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Plotted: May 13, 2016 – 1:16pm mgirk L:\Project\16100\16185\Dwg\EXHIBITS-2016\P16185-FIGURE 1.dwg Layout Name: FIGURE 1